Complete Summary

GUIDELINE TITLE

Adapting your practice: treatment and recommendations for homeless patients with diabetes mellitus.

BIBLIOGRAPHIC SOURCE(S)

Brehove T, Bloominger MJ, Gillis L, Meierbachtol DA, Richardson VJ, Strehlow AJ. Adapting your practice: treatment and recommendations for homeless patients with diabetes mellitus. Nashville (TN): Health Care for the Homeless Clinicians' Network, National Health Care for the Homeless Council, Inc.; 2002 Jun. 10 p. [6 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Diabetes mellitus in homeless adults
- Complications of diabetes mellitus

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Emergency Medicine
Endocrinology
Family Practice

Internal Medicine
Nutrition
Ophthalmology

INTENDED USERS

Advanced Practice Nurses
Dentists
Dietitians
Health Care Providers
Nurses
Physician Assistants
Physicians
Podiatrists
Public Health Departments
Social Workers
Students
Substance Use Disorders Treatment Providers

GUIDELINE OBJECTIVE(S)

To recommend adaptations in standard clinical practices to improve quality of care and health outcomes for homeless adults with diabetes mellitus

TARGET POPULATION

Homeless adults with diabetes mellitus

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. History, including living conditions; eating habits, nutritional status; the condition and fit of footwear, how much walking the patient does, history of foot problems (sores/ulcers); sexual/ reproductive history, contraception use; current medications; use of tobacco/alcohol/illicit drugs; patient's literacy level
2. Diagnostic tests, such as dipstick urinalysis; albumin-to-creatinine ratio in a random spot collection; use of a diabetic monitoring card to record test results and exams

Management/Treatment

1. Assessing the patient's current living situation, food sources, and medical/psychosocial/economic factors that may affect adherence to the plan of care; referral to social services, as needed
2. Patient education and self-management, including educating patients about diet and nutrition, oral health, exercise, and foot care
3. Insulin therapy including use of a basal insulin (Lantis with Lispro) or regular insulin before meals if eating patterns are erratic; decreasing insulin dosage when food is unavailable; using premixed insulin when possible; encouraging

patient to inject insulin into the abdomen and rotate injection sites; assisting patients with insulin and syringe storage
4. Treatment with oral anti-diabetic agents including: assessing liver function and screening for alcohol abuse before starting metformin; teaching patients to hold or decrease the dosage of sulfonylureas when food is unavailable
5. Self-monitoring of blood glucose using glucometer (if available) or urine strips (cut in half if supply is limited)
6. Contingency plan for managing hypoglycemic episodes, including teaching shelter staff, as well as family members and friends (if available), the signs and symptoms of hypoglycemia
7. Management of associated problems and complications, including ensuring convalescent care for patients with foot ulcers and access to eye exams for patients with diabetic retinopathy; assessing the patient's access to bathroom facilities and water when prescribing a diuretic to reduce blood pressure; more frequent liver function screening for patients using statins for hyperlipidemia and those with co-occurring substance use disorders; finding free/discounted dental services within the community; assisting patients with alcohol and nicotine dependence in changing their behavior; connecting with agencies that offer counseling and therapy for patients with a mental impairment; managing concurrent cardiovascular problems and diabetes simultaneously

MAJOR OUTCOMES CONSIDERED

- Hemoglobin A1C level; number of assessments/year
- Self-management goals set by diabetic patients
- Blood pressure level
- Vision/dental examinations
- Health disparities between homeless and general U.S. populations

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Searches of MEDLINE, SocABS, PsycInfo databases were performed. Bibliographies compiled by the Bureau of Primary Health Care´s Homeless Information Resources Center were also searched.

NUMBER OF SOURCE DOCUMENTS

This guideline is adapted from one primary source.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The Network assembled an advisory committee of primary care providers working in Health Care for the Homeless. Over the course of several months, the Committee provided specific recommendations for clinical practice taking into consideration their experience and outcomes with this special population.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Clinical Validation-Pilot Testing
External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guideline developer's Advisory Committee identifies, in the original guideline document, the clinicians who reviewed and commented on the draft recommendations prior to publication.

The guideline was field tested by clinicians in designated Health Care for the Homeless projects during the summer of 2003. Evaluation criteria included clarity, flexibility and ease of use; relevance to the care of homeless clients or those at

risk of becoming homeless; inclusion of strategies to promote outreach and case management and ensure follow-up; sufficiently detailed to ensure that similar practitioners would offer similar treatment in the same circumstances; and sufficiently complete to enable new clinicians to use them for homeless clients. Evaluators found that the guideline met all of these criteria and recommended future development of "short forms" of this and other adapted clinical guidelines to facilitate use in a variety of clinical settings.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Diagnosis and Evaluation

History

- Assess where the patient is living (e.g., shelter, on the street, doubled up ["Doubled up" is a term that refers to a situation where individuals are unable to maintain their housing situation and are forced to stay with a series of friends and/or extended family members.]).
- Ask when the patient last had a permanent or regular place to live and if they ever had their own apartment or home.
- Ask the patient about eating habits and patterns, including nutrition status, weight history, and food sources (e.g., soup kitchens). Many food sources supply only one meal a day so that the homeless person must visit multiple places for food.
- Ask the patient if they have access to food and water when they want or need it (e.g., snacks).
- Assess and often reassess how much walking the patient is doing as well as the condition and fit of footwear.
- Ask patient if they have ever had foot sores or ulcers or any problems with their feet.
- Obtain a sexual history including contraception and reproductive history.
- Ascertain the patient´s current medications and how they are obtained.
- Explore the use of tobacco, alcohol, and illicit drugs, and the frequency and route of use. Assess the patient´s readiness to change behavior.
- Assess patient´s literacy level.

Diagnostic Tests

- Perform dipstick urinalysis to test for ketones, glucose, protein, and sediment.
- To assess kidney status, the best test for homeless patients is the albumin-to-creatinine ratio (urine for microalbumin) in a random spot collection. If the test is elevated, repeat. If the test is again elevated, do a 24-hour urine for protein. Consideration of the patient´s living situation and ability to do the 24-hour collection must be weighed carefully before ordering this test.
- Since homeless patients can be transient, consider using a diabetic monitoring card to record labs and exams (Ridollfo & Proffitt, 2000). Patients can use this card to share information with their next health care provider, and it is also useful as a self-management tool. Designed specifically for homeless individuals with diabetes, the monitoring card is available through

the Health Care for the Homeless (HCH) Clinicians´ Network (cards come 100 to a pack; for a sample or to order call 615 226-2292).

Plan and Management

At each visit the clinician should:

- Assess the patient´s current living situation, including where they live, how long they have lived there, who lives with them, and their relationship to that person.
- Assess the psychological, sociological, and economic factors that may affect the management plan. Refer the patient to community resources, as needed (e.g., Department of Social Services).
- Assess food sources.

  Tip: Patients receiving food stamps or other public entitlements may exhaust their resources by the end of the month.

Patient Education and Self-Management

Patients who are dependent on tobacco, alcohol, or illicit drugs may not be ready or able to abstain from these substances. Helping the patient move in that direction may be the final goal. Many therapeutic interventions help decrease health risks until they are ready to change their behavior. Motivational interviewing, for example, is a successful technique to reduce risk of complications (Miller & Rollnick, 2002).

Providing culturally suitable education that involves the patient in the learning process is critical. Successful approaches to teaching homeless persons include peer interaction and support groups.

Diet and Nutrition

Homeless persons are usually dependent on soup kitchens or shelters for meals, and it may be difficult to plan meals to coincide with insulin administration. Clinicians should work with shelters and soup kitchens to promote healthy food choices and to provide supplemental snacks to those with diabetes.

The clinician should:

- Assess where and when the patient is eating, and the frequency and healthfulness of meals.
- Provide suitable documentation for the patient with diabetes to use at food pantries, soup kitchens, and shelters to obtain healthful snacks and foods.
- Encourage the patient to make the best choices that they can from what is available. For example, taking a smaller portion of macaroni and cheese and a larger portion of vegetables.
- Ask the patient to save part of the meal for later when only one or two meals are available per day.
- Provide multivitamins with minerals.

Oral Health

Access to preventive dental services is often difficult for patients experiencing homelessness. The clinician can:

- Provide toothbrushes, toothpaste, and dental floss.
- Teach basic oral health care (e.g., demonstrating proper brushing and flossing).
- Advise patient to rinse mouth with water after eating when brushing is not possible.

Exercise

For people who are homeless, walking is their typical exercise and they usually carry their belongings, which increases the exercise effort. Patients with peripheral neuropathy or foot problems should take precautionary measures such as proper footwear. The clinician should:

- Chart how far the client walks daily.
- When appropriate, suggest that the patient take steps instead of elevators.
- Assess the condition of the patient´s shoes and socks.

Foot Care

Foot problems often result from prolonged standing and walking. When combined with diabetes, the patient is at high-risk for foot ulcers. The clinician should:

- Encourage patient to keep feet dry and take shoes and socks off at night.
- Instruct patient to wash socks nightly, if possible, and dry thoroughly.
- Teach patients how to examine their feet. If they cannot see the bottom of their feet, teach the patient how to use a mirror. Urge patients to visit the clinic immediately if they have open foot sores or areas of redness.
- Identify community resources for free shoes and socks, and refer patients as needed. Maintain a supply of clean socks to give to patients as needed.
- Secure a podiatrist for referrals and consultation.

Insulin Therapy

Tight glycemic control can increase the risk of hypoglycemic episodes in homeless individuals due to a variety of physiological and compliance factors, including excessive caloric expenditures (e.g., extensive walking), uncertain caloric intake (e.g., availability, content, and timing of meals), and behavioral factors that may negatively effect compliance (e.g., mental illness and substance abuse).

> Tip: Tight glycemic control may be dangerous for patients who cannot reliably predict the number or timing of meals that they will eat that day.

- Consider using a basal insulin such as Lantis with Lispro insulin or regular insulin before meals to accommodate erratic eating patterns.

- Consider having the patient use a sliding scale if food sources are unreliable or unavailable.
- Consider decreasing insulin dosage when food is unavailable.
- Use premixed insulin when possible.
- If they are walking a great deal, encourage patient to inject insulin into the abdomen to avoid erratic absorption.
- Remind the patient to rotate injection sites to avoid lipodystrophy.

Insulin Storage

Since patients have little or no access to refrigeration, consider these options:

- Assess if the patient can use a shelter´s refrigerator and if the insulin will be accessible when needed.
- Store the patient´s insulin at the clinic and dispense one vial at a time.
- Suggest that the patient store insulin in an insulated lunch bag.
- Provide insulated lunch bags for insulin storage.
- Avoid pre-filling syringes and storing them in a communal refrigerator (e.g., in a shelter), where the medication integrity cannot be monitored safely.
- Recommend that patients avoid carrying insulin inside pants or shirt pockets.

Syringe Storage

- Consider providing alcohol wipes to clean needles for reuse.
- Caution patients to store syringes securely since they can be stolen for illicit drug use.
- Advise patients that a pharmacy may provide one or two syringes if needed. The patient will need to show the pharmacist their insulin supply.

Oral Anti-diabetic Agents

People experiencing homelessness have high rates of hepatitis and a high incidence of substance use disorders (50 percent nationally; Koegel, Burman, & Baumohl, 1996) with associated liver dysfunction. The clinician should:

- Assess liver function on a regular basis.
- Screen carefully for alcohol abuse before starting metformin due to an increased risk of lactic acidosis.

For the patient taking sulfonylureas, the clinician should:

- Recommend that the patient hold or decrease the dosage when food is unavailable to avoid hypoglycemic episodes.

Self-monitoring of Blood Glucose

Although self-monitoring of blood glucose has replaced urine testing to measure glucose control, patients who are homeless often have difficulty obtaining glucometers or strips.

If self-monitoring is not possible, the clinician should:

- Teach patient to use urine strips to check glucose.
- Recommend frequent clinic visits to monitor blood glucose and complications.

Tip: Urine and visual blood glucose strips can be cut in half to double the supply.

Contingency Plan for Managing Hypoglycemic Episodes

People who are homeless often do not have family members or friends available to help in an emergency. Clinicians should teach shelter staff the signs and symptoms of hypoglycemia. This is critical since hypoglycemia may be mistaken for intoxication. If the patient is conscious and able to swallow, the shelter staff can give oral glucose (e.g., an orange drink). If the patient is unresponsive or unable to swallow, the shelter staff should immediately call 911 for help.

If the patient has family members or friends available, they should be taught to recognize the signs and symptoms of hypoglycemia and how to administer a subcutaneous or intramuscular injection of glucagon should the patient ever be unresponsive or unable to swallow.

Management of Associated Problems and Complications

Diabetic Foot Ulcers

Sufficient bed rest may not be possible for the homeless person since many shelters are not open during the day. Clinicians need to work with shelter staff and other homeless service providers to ensure that convalescent care is available. Convalescent care may include access to a motel room or 24-hour shelter beds for those needing bed rest.

Diabetic Retinopathy

Access to eye exams may be difficult for homeless patients due to a lack of insurance. Networking with local ophthalmologists to obtain free exams has been successful in several communities.

Hypertension

When considering using a diuretic for blood pressure control, the clinician should:

- Assess the patient´s access to bathroom facilities.
- Assess the patient´s access to water and other fluids if the patient is living outside in a hot climate.

Lipid Management

Consider screening liver functioning more frequently for patients using statins for hyperlipidemia if the patient is abusing alcohol and other drugs.

Oral Health

Poor oral hygiene is common among homeless people. Dental abscesses and periodontal disease contribute to poor glycemic control. The clinician should identify free or discounted dental services available within the community. Dental schools, public health departments, and private dentists who volunteer their services can be valuable resources for homeless people.

Alcohol Dependence

For the patient who is not ready or able to abstain from alcohol use:

- Stress the importance of eating.
- Encourage the patient to seek shelter on nights when weather is extreme (e.g., cold, hot, or wet).
- Consider using motivational interviewing techniques and risk reduction methods to guide the patient toward abstinence.
- Suggest more frequent office visits to encourage goal setting and closely monitor the diabetes progression.

Nicotine Dependence

For the patient who is dependent on nicotine, the clinician should refer or enroll the patient in a smoking cessation program. Smoking causes vasoconstriction that increases the risk of frostbite. For patients living outside or in poorly heated places, the clinician should:

- Explain the relationship between smoking vasoconstriction and diabetes.
- Recommend that the patient always wear gloves and carry an extra pair of socks to change into when feet get damp.

Smoking increases risk of pulmonary infection and may contribute to vitamin C deficiencies that can affect wound healing. The clinician should:

- Stress hand washing to decrease the transmission of organisms.
- Provide annual influenza vaccines and encourage the administration of the pneumococcal vaccine.
- Teach the patient about good food sources of vitamin C.
- Consider providing vitamin supplements.

Mental Impairment

About 25 percent of homeless people have at some time experienced severe mental disorders such as schizophrenia, major depression, or bipolar disorder (Koegel, Burnam, & Baumohl, 1996). Homeless patients may have developmental delays and impaired cognitive functioning. Patients with mental impairments may experience the following:

- Impaired thinking processes that result in disorientation and a disorganized lifestyle
- Lack of motivation to seek help
- Lack of insight or understanding of their illness, which may result in denial of the need for services

- Negative experiences with mental health institutions
- Unpleasant medication side effects

For providers not in health care for the homeless projects that offer mental health services, connecting with other agencies that offer counseling and therapy will help greatly in managing the plan for the homeless patient with a mental impairment.

Other Comorbidities

Hypertension, dyslipidemia, and cardiovascular disease often co-occur in persons with diabetes. Lowering blood pressure with regimes based on antihypertensive medications and aspirin therapy has been shown to be effective in lowering cardiovascular problems and in slowing progressions of nephropathy and retinopathy. In addition, lipid-lowering measures should be included. Clinicians should consider managing cardiovascular problems simultaneously in individuals with diabetes.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

This is a guideline adapted from the following source:

American Diabetes Association. Standards of medical care for patients with diabetes mellitus. Diabetes Care 2002; 25:S33-40.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Improved quality of care in homeless patients with diabetes

POTENTIAL HARMS

- Metformin increases risk of lactic acidosis in alcohol abusers.
- Sulfonylureas can cause hypoglycemic episodes in patients unable to eat regular meals.
- Tight insulin control can increase the risk of hypoglycemic episodes in homeless individuals due to excessive caloric expenditures, uncertain caloric intake, and behavioral factors affecting adherence.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The information and opinions expressed in the guideline are those of the Advisory Committee for the Adaptation of Clinical Guidelines for Homeless Patients with Diabetes Mellitus, not necessarily the views of the U.S. Department of Health and Human Services, the Health Resources and Services Administration, or the National Health Care for the Homeless Council, Inc.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

This guideline has been distributed to 161 Health Care for the Homeless (HCH) grantees across the United States and to several academic programs that train primary care practitioners. Fifty-one of these projects are participating in a Health Disparities Collaborative on Diabetes. The HCH Clinicians' Network uses this venue to educate mainstream providers about the special needs of homeless patients. These and other recommended clinical practice adaptations to optimize care for homeless persons are also being used in workshops at national and regional conferences including the Health Disparities Collaborative Learning Sessions and the National HCH Conference sponsored by the Bureau of Primary Health Care/HRSA/HHS).

HCH projects use outcome measures recommended by the Health Disparities Collaborative on Diabetes in which the HCH Clinicians' Network is a national partner (available at: www.healthdisparities.net/Diabetes_Measures2003-2004.html).

IMPLEMENTATION TOOLS

Patient Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Brehove T, Bloominger MJ, Gillis L, Meierbachtol DA, Richardson VJ, Strehlow AJ. Adapting your practice: treatment and recommendations for homeless patients with diabetes mellitus. Nashville (TN): Health Care for the Homeless Clinicians' Network, National Health Care for the Homeless Council, Inc.; 2002 Jun. 10 p. [6 references]

ADAPTATION

This is a guideline adapted from the following source:

American Diabetes Association. Standards of medical care for patients with diabetes mellitus. Diabetes Care 2002; 25:S33-40.

DATE RELEASED

2002 Jun

GUIDELINE DEVELOPER(S)

Health Care for the Homeless (HCH) Clinician's Network - Medical Specialty Society
National Health Care for the Homeless Council, Inc. - Private Nonprofit Organization

SOURCE(S) OF FUNDING

The Bureau of Primary Health Care, Health Resources and Services Administration, U.S. Department of Health and Human Services

GUIDELINE COMMITTEE

Advisory Committee on Adapting Clinical Guidelines for Homeless Individuals with Diabetes Mellitus

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Committee Members: Theresa M. Brehove, MD, Venice Family Clinic, Venice, California; Mary Jo Bloominger, PA-C, Community Health Care, Inc., Davenport, Iowa; Laura M. Gillis, MS, RN, Health Care for the Homeless Clinicians´ Network, Baltimore, Maryland; Darcie A. Meierbachtol, MS, ANP, FNP, Colorado Coalition for the Homeless, Stout Street Clinic, Denver, Colorado; Veronica J. Richardson, MSN, RN, Grace Hill Neighborhood Health Centers, Inc., Saint Louis, Missouri; Aaron J. Strehlow, RN, PhD, FNP-C, UCLA School of Nursing Health Center at the Union Rescue Mission, Los Angeles, California

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The Health Care for the Homeless (HCH) Clinicians' Network has a stated policy concerning conflict of interest. First, all transactions will be conducted in a manner to avoid any conflict of interest. Secondly, should situations arise where a Steering Committee member is involved in activities, practices or other acts which conflict with the interests of the Network and its Membership, the Steering Committee member is required to disclose such conflicts of interest, and excuse him or herself from particular decisions where such conflicts of interest exist.

No conflicts of interest were noted during preparation of this guideline.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the National Health Care for the Homeless Council, Inc. Web site.

Print copies: Available from the National Health Care for the Homeless Council, Inc., P.O. Box 60427, Nashville, TN 37206-0427; Phone: (615) 226-2292

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following are available:

- Ridolfo AJ, Proffitt Brenda J. Diabetes and homelessness: overcoming barriers to care. Nashville: Health Care for the Homeless Clinicians' Network, 2000.
- Diabetes Personal Care Cards and nylon wallets with zippered pocket, clear plastic sleeve and nylon cord (to be worn around the neck)

Electronic copies: An order form is available from the National Health Care for the Homeless Council, Inc. Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This NGC summary was completed by ECRI on May 24, 2004. The information was verified by the guideline developer on June 24, 2004.

Date Modified: 1/10/2005